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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,557	01/16/2002	Ho-Jin Kweon	1567.1025	1791
21171	7590	05/04/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			WILLS, MONIQUE M	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/046,557	KWEON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Wills M Monique	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 11-22 and 24-26 is/are allowed.
- 6) ☒ Claim(s) 4-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

This Office Action is responsive to the Amendment filed February 9, 2004. The rejection of claims 1-8, 10 & 19-26 under 35 U.S.C. 102(b) as being anticipated by Wang U.S. Patent 5,783,328, is overcome. Claims 1-3, 11-22 & 24-26 are all allowed. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 4-5 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Amatucci et al. U.S. Patent 5,705,291. Claims 4-8 & 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kweon et al., U.S. Pub. 2002/0076486.

### *Allowable Subject Matter*

Claims 1-3 are allowable over the prior art of record, because the prior art is silent to a lithiated compound coated with at least two surface-treatment layers, wherein the coating comprises Al, Si, Ti, Sn, V, Ge, Ga, B or As in a compound form of a hydroxide, oxyhydroxide, oxycarbonate or hydroxycarbonate.

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Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 9 would be allowable over the prior art of record, because the prior art is silent to a method of preparing a positive active material comprising coating a lithiated compound with a first-coating comprising at least two coating elements selected from Al, Si, Ti, Sn, V, Ge, Ga, B, and As, and a second-coating comprising at least two coating elements selected from Al, Si, Ti, Sn, V, Ge, Ga, B, and As.

Claims 11 & 15 are allowable over the prior art of record, because the prior art is silent to a lithiated compound coated with a first surface-treatment layer comprising an Al-included hydroxides, Al-included oxyhydroxides, Al-included oxycarbonate or Al-included hydroxycarbonate and a second surface-treatment layer comprising at least one of Si-included hydroxides, Si-included oxyhydroxides, Si-included oxycarbonate or Si-included hydroxycarbonate.

Claims 12-14 & 16-18 are allowable over the prior art of record, because the prior art is silent to a method of fabricating a positive active material for a rechargeable lithium battery comprising coating a lithium-cobalt based compound with a first coating liquid comprising Al and a second coating liquid comprising Si.

Claims 19-22 are allowable over the prior art of record, because the prior art is silent to a method of preparing a positive active material comprising coating a lithiated compound with a first surface treatment layer and a second treatment layer,

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wherein the first and second coatings are sequentially layered, and the coating elements are selected from Al, Si, Ti, Sn, V, Ge, Ga & B.

Claims 24-26 are allowable over the prior art of record, because the prior art is silent to a positive active material comprising a lithiated compound coated with, sequentially layered, first surface treatment layer and a second treatment layer, wherein the first and second coating elements are selected from Al, Si, Ti, Sn, V, Ge, Ga & B.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-5 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Amatucci et al., U.S. Patent 5,705,291.

Amatucci teaches a rechargeable lithiated intercalation battery having reduced self-discharge comprising a negative electrode, nonaqueous electrolyte and positive electrode (abstract). With respect to claim 4, a lithiated compound is coated with a mixture containing boron oxide, aluminum oxide and/or silicon dioxide, and

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subsequently dried (col. 4, lines 15-30). With respect to claim 5, the lithiated compound is  $\text{LiMn}_2\text{O}_4$  meeting formulae (3) when  $x=1$  and  $y=0$  (col. 4, lines 15-30).

With respect to claim 10, Amatucci teaches coating a lithiated compound with a mixture containing boron oxide, aluminum oxide and/or silicon dioxide and drying the coated compound (col. 4, lines 15-30).

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4-8 & 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kweon et al., U.S. Pub. 2002/0076486.

The applied reference has a common inventors and assignment with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but

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not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Kweon teaches a method of preparing a positive electrode for a rechargeable lithium battery (abstract). With respect to claims 4 & 10, Kweon teaches coating a lithiated compound with a mixture of coating elements selected from Al, Si, Ti, Sn, Ge, Ga, B and As (§ 29) and drying the coated compound (§39). With respect to claim 5, the lithiated compounds of formulae 1-5 and 7-11 (§21) embrace instant formulae 1-5 & 7-13. With respect to claim 6, drying is performed at 100 to 1000°C for 1 to 20 hours (§38). With respect to claim 7, the lithiated compound is mixed with a coating solution while heating at increasing temperatures (§35). With respect to claim 8, a blowing gas is injected while increasing temperature of the mixture (§35 & 45).

#### *Response to Arguments*

Applicant's arguments, filed February 9, 2004 with respect to the rejection of claims 1-8, 10, 19-26 as being anticipated by Wang U.S. Patent 5,783,328 have been fully considered and are persuasive. Specifically, Applicant contends that Wang does not teach a lithiated compound coated with a hydroxide, oxyhydroxide, oxycarbonate or hydroxycarbonate of Al, Si, Ti, Sn, V, Ge, Ga, B or As. The assertion is correct and the rejection has been withdrawn.

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### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone



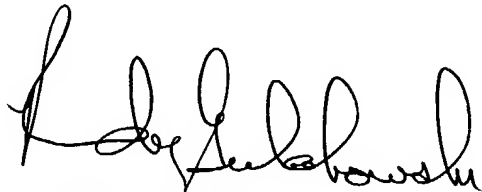
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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mw

04/30/04



RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700